CHAPTER 6

RESTORATION STRATEGIES IN THE OBION RIVER (NORTH FORK) WATERSHED

6.1. BACKGROUND.

The Watershed Water Quality Management Plan serves as a comprehensive inventory of resources and stressors in the watershed, a recommendation for control measures, and a guide for planning activities in the next five-year watershed cycle and beyond. Water quality improvement will be a result of implementing both regulatory and nonregulatory programs.

In addition to the NPDES program, some state and federal regulations, such as the TMDL and ARAP programs, address point and nonpoint issues. Construction and MS4 storm water rules (implemented under the NPDES program) have transitioned from Phase 1 to Phase 2. More information on storm water rules may be found at: http://www.state.tn.us/environment/wpc/stormh2o/.

This Chapter addresses point and nonpoint source approaches to water quality problems in the Tennessee Portion of the North Fork Obion River Watershed as well as specific NPDES permittee information.

6.2. COMMENTS FROM PUBLIC MEETINGS. Watershed meetings are open to the public, and most meetings were represented by citizens who live in the watershed, NPDES permitees, business people, farmers, and local river conservation interests. Locations for meetings were chosen after consulting with people who live and work in the watershed. Everyone with an interest in clean water is encouraged to be a part of the public meeting process. The times and locations of watershed meetings are posted at: http://www.state.tn.us/environment/wpc/watershed/public.shtml.

6.2.A. Year 1 Public Meeting. The first North Fork Obion River Watershed public meeting was held jointly with the South Fork Obion River and Mississippi River Watersheds on October 9, 2000, at the Union City Municipal Building. The goals of the meeting were to: (1) present, and review the objectives of, the Watershed Approach, (2) introduce local, state, and federal agency and nongovernmental organization partners, (3) review water quality monitoring strategies, and (4) solicit input from the public.

Major Concerns/Comments Voiced at Public Meeting

- Silt and sediment in Relfoot Lake and Bayou du Chien should be monitored

6.2.B. Year 3 Public Meeting. The second North Fork Obion River Watershed public meeting was held jointly with the South Fork Obion River and Mississippi River Watersheds on October 24, 2002, at the University of Tennessee-Martin campus. The goals of the meeting were to: (1) provide an overview of the watershed approach, (2) review the monitoring strategy, (3) summarize the most recent water quality assessment, (4) discuss the TMDL schedule and citizens' role in commenting on draft TMDLs, and (5) discuss BMPs and other nonpoint source tools available through the Tennessee Department of Agriculture 319 Program and NRCS conservation assistance programs.

Major Concerns/Comments Voiced at Public Meeting

- Flooding occurs more often
- Flooding occurs less often
- The COE allows levees without concern for the river (does not allow for return of natural meander) or people down stream (increased flooding).
- Rainwater (storm water) clears off the land quickly, but silt from upstream (where there are levees) comes later and persists.
- Chicken litter application stinks and puts nutrients in streams, especially near Dresden (Mud Creek)
- The Obion River is getting shallower (due to siltation), so it floods nearby woodlands and farms.

6.2.C. Year 5 Public Meeting. The third scheduled Obion River (North Fork) Watershed public meeting was held October 7, 2008 at the UT-Martin Reed Center in Martin. The meeting was held jointly with the Obion River (South Fork) and the Mississippi River Watersheds and featured six educational components:

- Overview of watershed approach flash video
- Benthic macroinvertebrate specimens and interpretation
- "Is Your Stream Healthy" self-guided slide show
- "Why We Do Biological Sampling" self-guided slide show
- GIS (Geographic Information Systems) inventory of the watershed
- Water quality and land use maps

In addition, citizens had the opportunity to make formal comments on the draft Watershed Water Quality Management Plan.

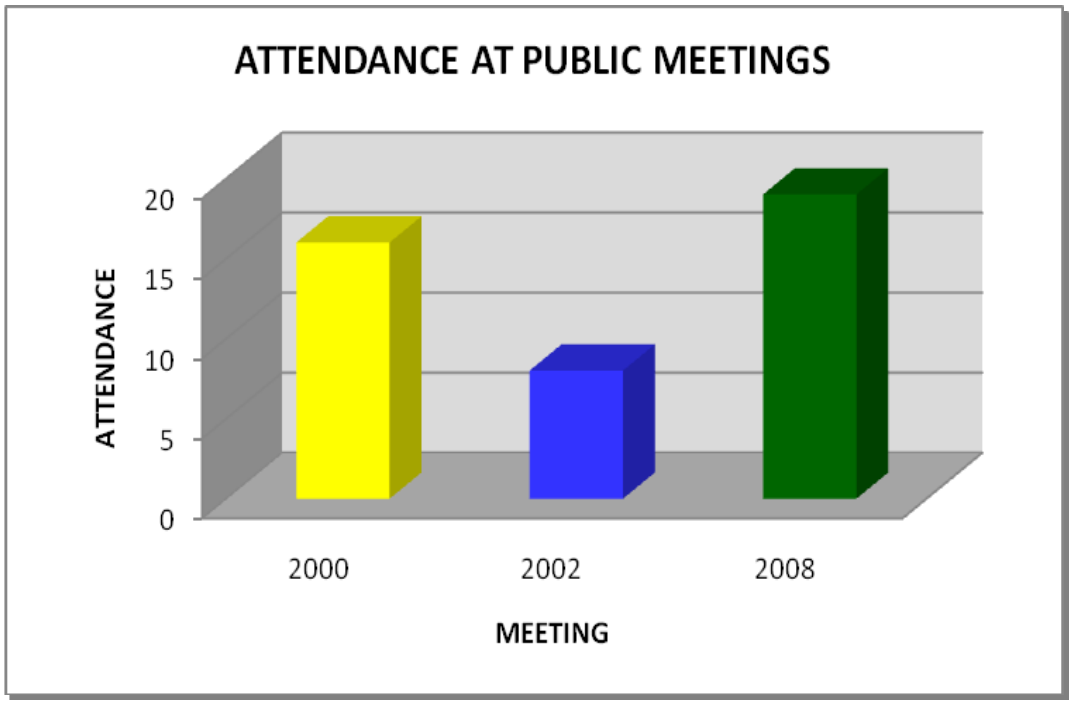

Figure 6-1. Attendance at the North Fork Obion River, South Fork Obion River, and Mississippi Watershed Joint Public Meetings. *Attendance numbers do not include TDEC personnel.*

Figure 6-2. Jackson Environmental Field Office Manager Pat Patrick Brings the Watershed Meeting to Order.

Figure 6-3. At Watershed Meetings, Citizens Learn About Benthic Macroinvertebrates (Small Invertebrates that Live on the Bottom of the Streams) in Their Watershed.

Figure 6-4. At Watershed Meetings, Participants from the Private Sector Have an Opportunity to Talk Informally with the Jackson Environmental Field Office Manager.

Figure 6-5. Maps are an Effective Way to Illustrate Water Quality Improvements in the Watershed.

6.3. APPROACHES USED.

6.3.A. Point Sources. Point source contributions to stream impairment are primarily addressed by NPDES and ARAP permit requirements and compliance with the terms of the permits. Notices of NPDES and ARAP draft permits available for public comment can be viewed at http://www.state.tn.us/environment/wpc/wpcppo/. Discharge monitoring data submitted by NPDES-permitted facilities may be viewed at http://www.epa.gov/enviro/html/pcs/pcs_query_java.html.

The purpose of the TMDL program is to identify remaining sources of pollution and allocate pollution control needs in places where water quality goals are still not being achieved. TMDL studies are tools that allow for a better understanding of load reductions necessary for impaired streams to return to compliance with water quality standards. More information about Tennessee's TMDL program may be found at:
http://www.state.tn.us/environment/wpc/tmdl/.

Approved TMDL:

> **Obion River Watershed** - Total Maximum Daily Load for E. Coli in the Obion River Watershed in Dyer, Gibson, Henry, Lake, Lauderdale, Obion, and Weakley Counties. Approved 03/05/2007.
>
> http://www.state.tn.us/environment/wpc/tmdl/approvedtmdl/ObionEcoli.pdf

TMDLs are prioritized for development based on many factors.

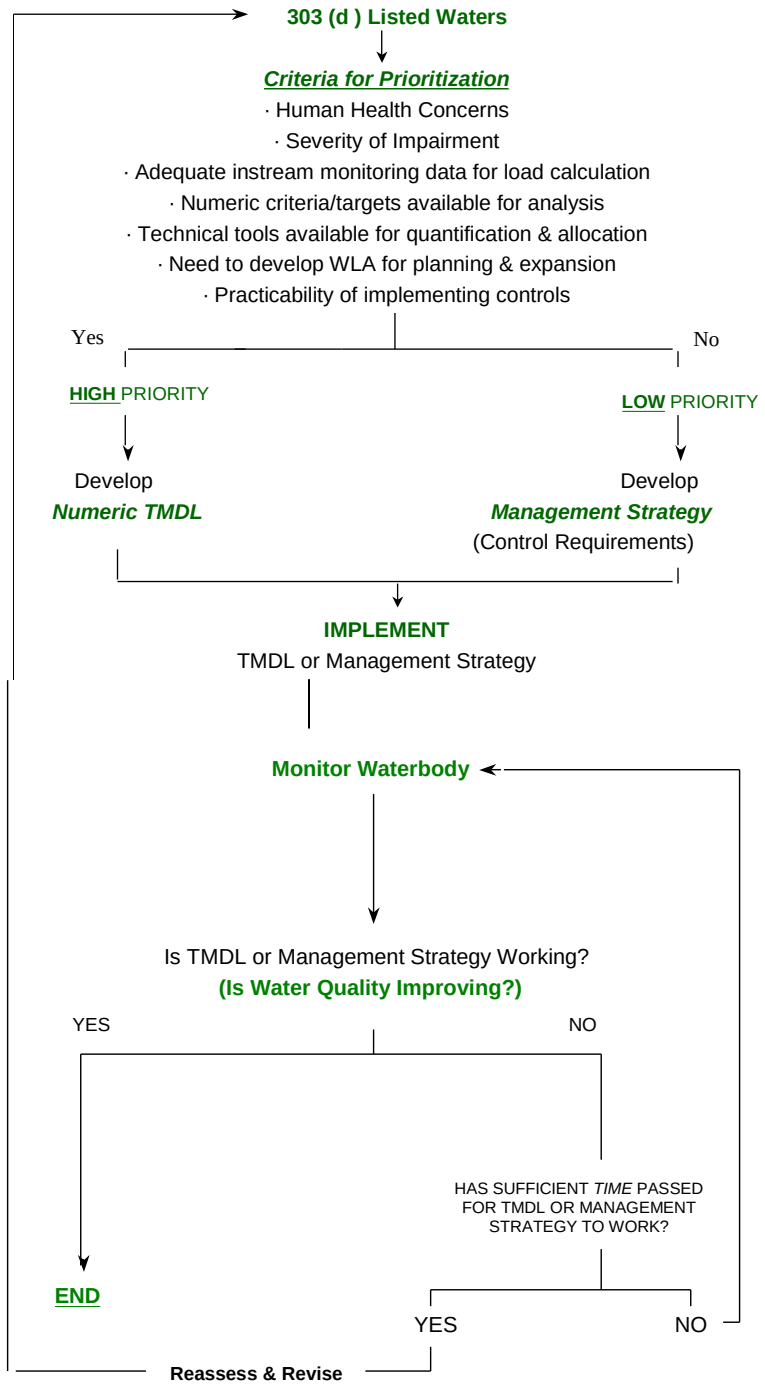

Figure 6-2. Prioritization Scheme for TMDL Development.

Several permitted discharges within the Obion and North Fork of the Obion discharge suspended solids under the conditions of an NPDES permit and are reviewed during the watershed cycle for reissuance. A few will also have limits on settleable solids. Some facilities with solids restrictions are Union City, South Fulton, Newbern and Troy.

6.3.B. Nonpoint Sources

Common nonpoint sources of pollution in the Tennessee Portion of the North Fork Obion River Watershed include urban storm water runoff, riparian vegetation removal, other habitat alterations, inappropriate land development, and agricultural practices. Since nonpoint pollution exists essentially everywhere rain falls, existing point source regulations can have only a limited effect.

There are several state and federal regulations that address contaminants impacting waters in the Tennessee Portion of the North Fork Obion River Watershed. Most of these are limited to point sources: a pipe or ditch. Often, controls of point sources are not sufficient to protect waters, so other measures are necessary. Some measures include efforts by landowners and volunteer groups and the possible implementation of new regulations. Many agencies, such as the Tennessee Department of Agriculture (TDA) and the Natural Resources Conservation Service (NRCS), offer financial assistance to landowners for corrective actions (like Best Management Practices) that may be sufficient for recovery of impacted streams. Many nonpoint problems will require an active civic involvement at the local level geared towards establishment of improved zoning guidelines, building codes, streamside buffer zones and greenways, and general landowner education.

The following text describes types of impairments, possible causes, and suggested improvement measures. Restoration efforts should not be limited to only those streams and measures suggested below.

6.3.B.i. Sedimentation.

6.3.B.i.a. From Construction Sites. Construction activities have historically been considered “nonpoint sources.” In the late 1980’s, EPA designated them as being subject to NPDES regulation if more than 5 acres were being disturbed. In the spring of 2003, that threshold became 1 acre or less than 1 acre if it’s part of a larger development. The general permit issued for such construction sites establishes conditions for maintenance of the sites to minimize pollution from storm water runoff, including requirements for installation and inspection of erosion prevention and sediment controls. Also, the general permit imposes more stringent inspection, design criteria and sediment control measures on sites in the watershed of streams that are already impaired due to siltation or are considered high quality. Regardless of the size, no construction site is allowed to cause a condition of pollution.

Beginning in 2003, the state began requiring some municipalities to obtain coverage under a permit designed to address nonpoint runoff issues: the General NPDES Municipal Separate Storm Sewer System Permit, commonly known as MS4. This permit requires the holder to develop a comprehensive storm water management program, including the adoption of local regulatory ordinances, regular inspection of construction sites and other discharges into their storm sewers, and a variety of educational, mapping, and monitoring activities. The state audits and oversees these local MS4 programs. Due to the rural nature of much of the area, and lack of large high density population centers, the only portion of the Tennessee Portion of the North Fork Obion River Watershed in Tennessee currently covered by an active MS4 program is Union City.

Construction sites within a sediment-impaired watershed may also have higher priority for inspections by WPC and MS4 personnel, and are likely to have enforcement actions for failure to control erosion.

6.3.B.i.b. From Channel and/or Bank Erosion. Many streams within the Tennessee Portion of the North Fork Obion River Watershed suffer from varying degrees of streambank erosion. When steam channels are altered, banks can become unstable and highly erodable. Heavy livestock traffic can also severely disturb banks. When large tracts of land are cleared of vegetation (especially trees) and replaced with less permeable surfaces like row crops, pasture, asphalt and rooftops, the large increases in the velocities and volumes of storm water runoff can also overwhelm channel and bank integrity. Destabilized banks contribute to sediment loadings and to the loss of beneficial riparian vegetation.

Some inappropriate agricultural practices have impacted the hydrology and morphology of stream channels in the Tennessee Portion of the North Fork Obion River Watershed. Land development along the shore of Reelfoot Lake in the Samburg area has impacted Blue Basin.

Several agencies such as the NRCS, TVA, and TDA, as well as citizen watershed groups, are working to stabilize portions of stream banks using bioengineering and other techniques. Many of the affected streams, including Hoosier Creek and Stephens Creek, would benefit from these types of projects. Bioengineering could also be used along the shore of Blue Basin.

Some methods or controls that might be necessary to address common problems are:

Voluntary Activities

- Re-establish bank vegetation (Hoosier Creek).
- Establish off-channel watering areas for livestock by moving watering troughs and feeders back from stream banks, or at least limit cattle access to restricted areas with armored banks entry (Davidson Creek).

Regulatory Strategies

- Increase efforts in the Master Logger program to recognize impaired streams and require more effective management practices.

- Require post-construction run-off rates to be no greater than pre-construction rates in order to avoid in-channel erosion (Harris Fork Creek).
- Limit clearing of stream and ditch banks or other alterations (Hoosier Creek). *Note: Permits may be required for any work along streams.*
- Encourage or require strong local buffer ordinances.

Additional Strategies

- Better community planning and MS4 oversight for the impacts of development on small streams, especially development in growing areas such as Union City.

6.3.B.i.c. From Agriculture and Silviculture. The Water Quality Control Act exempts normal agricultural and silvicultural practices that do not result in a point source discharge. Nevertheless, efforts are being made to address impacts due to these exempted practices.

The Master Logger Program has been in place for several years to train loggers how to install Best Management Practices that lessen the impact of logging activities on streams. Recently, laws and regulations established the authority for the Commissioners of the Departments of Environment and Conservation and of Agriculture to stop the logging operation that, upon failing to install these BMPs, is causing impacts to streams.

Since the Dust Bowl era, the agriculture community has strived to protect the soil from wind and water erosion. Agencies such as the Natural resources Conservation Service (NRCS), the University of Tennessee Agricultural Extension Service, and the Tennessee Department of Agriculture are striving to identify better ways of farming, to educate the farmers, and to install the methods that address the sources of some of the impacts due to agriculture. Cost sharing is available for many of these measures.

Many sediment problems traceable to agricultural practices also involve riparian loss due to close row cropping or pasture clearing for grazing. Lack of vegetated buffers along stream corridors is a problem in most areas of the Tennessee portion of the North Fork Obion River Watershed, due both to agricultural and residential/commercial land uses. Many streams, like Hoosier Creek, Dry Creek, Parker Branch and Spring Hill Creek could benefit from the establishment of more extensive riparian buffer zones.

6.3.B.ii. Pathogen Contamination.

Possible sources of pathogens are inadequate or failing septic tank systems, overflows or breaks in public sewer collection systems, poorly disinfected discharges from sewage treatment plants, and fecal matter from pets, livestock and wildlife washed into streams and storm drains. When fecal bacterial levels are shown to be consistently elevated to dangerously high levels, especially in streams with high potential for recreational uses, the division must post signage along the creek warning the public to avoid contact. Once pathogen sources have been identified and corrected, and pathogen level reductions are documented, the posting is lifted.

Permits issued by the Division of Water Pollution Control regulate discharges from point sources and require adequate control for these sources. Individual homes are required to have subsurface, on-site treatment (i.e., septic tank and field lines) if public sewers are not available. The Division of Ground Water Protection within the Jackson Environmental Field Office regulates septic tanks and field lines. In addition to discharges to surface waters, businesses may employ subsurface treatment for domestic wastewater or surface discharge of treated process wastewater. The Division of Water Pollution Control regulates surface water discharges and near-surface land application of treated wastewater.

Currently, four stream systems in the Tennessee portion of the North Fork Obion River Watershed are known to have excessive pathogen contamination. Often in urban areas, bacterial contamination comes from storm water runoff, sewage collection system leaks, or treatment plant operation failures. Biggs Creek, Hurricane Creek, Reelfoot Creek, and the Obion River are in more agricultural watersheds with pasture, animal feeding operations or Concentrated Animal Feeding Operations. Failing septic tank systems and wildlife may also be sources of pathogens.

Some measures that may be necessary to control pathogens are:

Voluntary Activities

- Clean up pet waste.
- Repair failed septic systems.
- Establish off-channel watering of livestock (Davidson Creek)
- Limit livestock access to streams and restrict stream crossings (Davidson Creek)
- Improve and educate on the proper management of animal waste from concentrated feeding operations.

Regulatory Strategies

- Strengthen enforcement of regulations governing on-site wastewater treatment.
- Identify Concentrated Animal Feeding Operations not currently permitted.
- Extend permit requirements to third party utilizers of chicken litter.
- Develop and enforce leash laws and controls on pet fecal material.

Additional Strategies

- Develop intensive planning in areas where sewer is not available and treatment by subsurface disposal is not an option due to poor soils, floodplains, or high water tables.
- Develop and enforce leash laws and controls on pet fecal material.
- Greater efforts by sewer utilities to identify leaking lines or overflowing manholes
- Review the current regulations concerning the disposal of animal waste to address smaller, currently unregulated facilities and third party users of chicken waste.

6.3.B.iii. Excessive Nutrients and/or Dissolved Oxygen Depletion.

These two impacts are usually listed together because high nutrients often contribute to low dissolved oxygen within a stream. Since nutrients often have the same source as pathogens, the measures previously listed can also address many of these problems.

Elevated nutrient loadings are also often associated with urban runoff from impervious surfaces, from fertilized lawns and croplands, and faulty sewage disposal processes. Nutrients are often transported with sediment, so many of the measures designed to reduce sediment runoff will also aid in preventing organic enrichment of streams and lakes.

Dissolved oxygen depletion can also be due to the discharge of other biodegradable materials. These are limited in NPDES permits as ammonia and as either Biological Oxygen Demand (BOD) or Carbonaceous Oxygen Demand (CBOD).

Some sources of nutrients can be addressed by:

Voluntary Activities

- Educate homeowners and lawn care companies in the proper application of fertilizers.
- Encourage landowners, developers, and builders to leave stream buffer zones. Streamside vegetation can filter out many nutrients and other pollutants before they reach the stream. These riparian buffers are also vital along livestock pastures. Many streams in the Tennessee Portion of the North Fork Obion River Watershed within agricultural areas would benefit from additional riparian buffers.
- Use grassed drainage ways that can remove fertilizer before it enters streams.
- Use native plants for landscaping since they don't require as much fertilizer and water.
- Develop better overall storm water management in urban and residential areas, including retrofitting existing commercial lots, homes, and roadways with storm water quality and quantity BMPs. This would especially improve the urban streams and lakes currently polluted by excessive nutrient inputs, such as Blue Basin near Samburg.

Physical changes to streams can prevent them from providing enough oxygen to biodegrade the materials that are naturally present. A few additional actions can address this problem:

- Maintain shade over a stream. Cooler water can hold more oxygen and retard the growth of algae. As a general rule, all stream channels suffer from some canopy removal. An intact riparian zone also acts as a buffer to filter out nutrient loads before they enter the water.
- Discourage impoundments. Ponds and lakes do not aerate water, and cause many water quality problems downstream. Many lakes, often referred to as watershed lakes, were built in the Reelfoot Creek and Indian Creek watersheds to retain sediment. They are now being found to produce an oxygen deficient discharge which can impact the stream. *Note: Permits may be required for any work on a stream, including impoundments.*

Regulatory Strategies.

- Strengthen enforcement of regulations governing on-site wastewater treatment.
- Impose more stringent permit limits for nutrients discharged from sewage treatment plants.

- Identify Concentrated Animal Feeding Operations (CAFO) not currently permitted.
- Identify any Animal Feeding Operations (AFO) that contribute to stream impacts and declare them as a CAFO requiring a permit.
- Support and train local MS4 programs within municipalities to deal with storm water pollution issues and require additional storm runoff quality control measures. Efforts by Union City are expected to improve Harris Fork Creek.
- Require nutrient management plans for all golf courses and other large fertilizer users as are currently required of CAFO's.

Additional Strategies

- Encourage TDA- and NRCS-sponsored educational programs targeted to agricultural landowners and aimed at better nutrient management, as well as information on technology-based application tools.

6.3.B.iv. Toxins and Other Materials.

Although some toxic substances are discharged directly into waters of the state from a point source, much of these materials are washed in during rainfalls from an upland location, or via improper waste disposal that contaminates groundwater. In the Tennessee portion of the North Fork Obion River Watershed, no streams are known to be damaged by toxins in storm water runoff from industrial facilities or urban areas. Inspection and regulation of permitted industrial facilities, and local storm water quality initiatives and regulations, have reduced the amount of contaminated runoff reaching state waters.

Individuals may also cause contaminants to enter streams by activities that may be attributed to apathy or the lack of knowledge or civility. Litter in roadside ditches, garbage bags tossed over bridge railings, paint brushes washed off over storm drains, and oil drained into ditches are all blatant examples of pollution in streams.

Some of these problems can be addressed by:

Voluntary Activities

- Provide public education.
- Paint warnings on storm drains that connect to a stream.
- Sponsor community clean-up days.
- Landscape public areas.
- Encourage public surveillance of their streams and reporting of dumping activities to their local authorities.

Regulatory Strategies

- Continue to prohibit illicit discharges to storm drains and to search them out.
- Strengthen litter law enforcement at the local level.
- Increase the restrictions on storm water runoff from industrial facilities.

6.3.B.v. Habitat Alteration.

The alteration of the habitat within a stream can have severe consequences. Whether it is the removal of the vegetation providing a root system network for holding soil particles together, the release of sediment, which increases the bed load and covers benthic life and fish eggs, the removal of gravel bars, "cleaning out" creeks with heavy equipment, or the impounding of the water in ponds and lakes, many alterations impair the use of the stream for designated uses. Habitat alteration also includes the draining or filling of wetlands.

Many streams within the Tennessee Portion of the North Fork Obion River Watershed suffer from some degree of habitat alteration, especially riparian loss and bank disturbances from agricultural practices. Some notable streams in the watershed that have suffered significant harm from being impounded include Running Reelfoot Bayou and Reelfoot Creek.

Although large-scale public projects such as highway construction can alter significant portions of streams, individual landowners and developers are responsible for the vast majority of stream alterations. Some measures that can help address these problems are:

Voluntary Activities

- Sponsor litter pickup days to remove litter that might enter streams.
- Organize stream cleanups removing trash, limbs and debris before they cause blockage.
- Avoid use of heavy equipment to "clean out" streams as was recently done on Hoosier Creek. *Instream work other than debris removal will require an Aquatic Resource Alteration Permit (ARAP).*
- Plant native vegetation along streams to stabilize banks and provide habitat.
- Encourage developers to avoid extensive use of culverts in streams.

Regulatory Strategies

- Restrict modification of streams by means such as culverting, lining, or impounding.
- Require mitigation for impacts to streams and wetlands when modifications are allowed.
- Increased enforcement may be needed when violations of current regulations occur.

6.3.B.vi. Storm Water.

MS4 discharges are regulated through the Phase I or II NPDES-MS4 permits. These permits require the development and implementation of a Storm Water Management Program (SWMP) that will reduce the discharge of pollutants to the maximum extent practicable and not cause or contribute to violations of state water quality standards. The NPDES General Permit for Discharges from Phase I and II MSF facilities can be found at http://www.state.tn.us/environment/wpc/stormh2o/.

For discharges into impaired waters, the MS4 General Permit requires that SWMPs include a section describing how discharges of pollutants of concern will be controlled to ensure that they do not cause or contribute to instream exceedences of water quality standards. Specific measurements and BMPs to control pollutants of concern must also be identified. In addition, MS4s must implement the proposed waste load allocation provisions of an applicable TMDL (i.e., siltation/habitat alteration, pathogens) and describe methods to evaluate whether storm water controls are adequate to meet the waste load allocation. In order to evaluate SWMP effectiveness and demonstrate compliance with specified waste load allocations, MS4s are encouraged to develop and implement appropriate monitoring programs by the designated date.

Some storm sewer discharges are not regulated through the NPDES MS4 program. Strategies to address runoff from in these urban areas include adapting Tennessee Growth Readiness Program (TGRP) educational materials to the watershed. TGRP is a statewide program built on existing best management practices from the Nonpoint Education for Municipal Officials program and the Center for Watershed Protection. TGRP developed the program to provide communities and counties with tools to design economically viable and watershed friendly developments. The program assists community leaders in reviewing current land use practices, determining impacts of imperviousness on watershed functions, and allowing them to understand the economics of good watershed management and site design.

6.4. PERMIT REISSUANCE PLANNING

Under the *Tennessee Water Quality Control Act*, municipal, industrial and other dischargers of wastewater must obtain a permit from the Division. Approximately 1,700 permits have been issued in Tennessee under the federally delegated National Pollutant Discharge Elimination System (NPDES). These permits establish pollution control and monitoring requirements based on protection of designated uses through implementation of water quality standards and other applicable state and federal rules.

The following two sections provide specific information on municipal and industrial active permit holders in the Tennessee Portion of the North Fork Obion River Watershed. Compliance information was obtained from EPA's Permit Compliance System (PCS). All data was queried for a five-year period between January 1, 2001 and December 31, 2006. PCS can be accessed publicly through EPA's Envirofacts website. This website provides access to several EPA databases to provide the public with information about environmental activities that may affect air, water, and land anywhere in the United States:

http://www.epa.gov/enviro/html/ef_overview.html

Stream Segment information, including designated uses and impairments, are described in detail in Chapter 3, *Water Quality Assessment of the Tennessee Portion of the North Fork Obion River Watershed.*

6.4.A. Municipal Permits

TN0062120 Trimble STP

Discharger rating: Minor
City: Trimble
County: Dyer
EFO Name: Jackson
Issuance Date: 5/31/05
Expiration Date: 5/31/10
Receiving Stream(s): Obion River at mile 55.2
HUC-12: 080102020301
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Lagoon system

SEGMENT	TN08010202001_3000
Name	Obion River
Size	14
Unit	Miles
First Year on 303(d) List	2004
Designated Uses	Irrigation (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Fish and Aquatic Life (Non-Supporting)
Causes	Physical substrate habitat alterations, Sedimentation/Siltation
Sources	Channelization, Non-irrigated Crop Production

Table 6-1. Stream Segment Information for Trimble STP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD % removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	% Removal
BOD5	All Year	70	mg/L	DMax Conc	Weekly	Grab	Effluent
BOD5	All Year	117	lb/day	DMax Load	Weekly	Grab	Effluent
BOD5	All Year	45	mg/L	MAvg Conc	Weekly	Grab	Effluent
BOD5	All Year	60	mg/L	WAvg Conc	Weekly	Grab	Effluent
BOD5	All Year	100	lb/day	WAvg Load	Weekly	Grab	Effluent
BOD5	All Year	75	lb/day	MAvg Load	Weekly	Grab	Effluent
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	120	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	183	lb/day	WAvg Load	Weekly	Grab	Effluent
TSS	All Year	200	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	100	mg/L	MAvg Conc	Weekly	Grab	Effluent
TSS	All Year	167	lb/day	MAvg Load	Weekly	Grab	Effluent
TSS	All Year	110	mg/L	WAvg Conc	Weekly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-2. Permit Limits for Trimble STP.

Compliance History:
The following numbers of exceedences were noted in PCS:

- 6 Biological Oxygen Demand (BOD)
- 11 pH
- 3 Suspended Solids % Removal
- 1 Total Chlorine
- 1 Overflow
- 77 Bypasses

EFO Comments:
The City has inflow and infiltration problems with the collection system.

TN0062111 Newbern STP

Discharger rating: Major
City: Newbern
County: Dyer
EFO Name: Jackson
Issuance Date: 10/31/05
Expiration Date: 4/30/10
Receiving Stream(s): Obion River at mile 46.0
HUC-12: 080102020308
Effluent Summary: Treated municipal and industrial wastewater
Treatment system: Waste Activated Sludge to aerobic dig to land application

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
D.O.	All Year	3	mg/L	DMin Conc	Weekdays	Grab	Effluent
IC25 7day *Ceriodaphnia dubia*	All Year	1.2	Percent	MAvg Min	Annually	Composite	Effluent
IC25 7day Fathead Minnows	All Year	1.2	Percent	MAvg Min	Annually	Composite	Effluent

Table 6-3. Permit Limits for Outfall 001 at Newbern STP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	20	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	150	lb/day	WAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	15	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	10	mg/L	MAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	100	lb/day	MAvg Load	3/Week	Composite	Effluent
Bypass of Treatment (Occurrences)	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
CBOD % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
CBOD5	All Year	40	mg/L	DMax Conc	3/Week	Composite	Effluent
CBOD5	All Year	25	mg/L	MAvg Conc	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	250	lb/day	MAvg Load	3/Week	Composite	Effluent
CBOD5	All Year	35	mg/L	WAvg Conc	3/Week	Composite	Effluent
CBOD5	All Year	350	lb/day	WAvg Load	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
E. coli	All Year	941	#/100mL	DMax Conc	3/Week	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	1.5	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	400	lb/day	WAvg Load	3/Week	Composite	Effluent
TSS	All Year	30	mg/L	MAvg Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	300	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent

Table 6-4a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
TSS % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
TSS % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-4b.

Tables 6-4a-b. Permit Limits for Outfall 01A at Newbern STP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	25	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	125	lb/day	WAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	15	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	10	mg/L	MAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	83	lb/day	MAvg Load	3/Week	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
CBOD % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
CBOD5	All Year	40	mg/L	DMax Conc	3/Week	Composite	Effluent
CBOD5	All Year	25	mg/L	MAvg Conc	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	209	lb/day	MAvg Load	3/Week	Composite	Effluent
CBOD5	All Year	35	mg/L	WAvg Conc	3/Week	Composite	Effluent
CBOD5	All Year	292	lb/day	WAvg Load	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
E. coli	All Year	941	#/100mL	DMax Conc	3/Week	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	1.5	mg/L	DMax Conc	Weekdays	Grab	Effluent

Table 6-5a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
TSS	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	334	lb/day	WAvg Load	3/Week	Composite	Effluent
TSS	All Year	30	mg/L	MAvg Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	250	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent
TSS % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
TSS % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-5b.

Tables 6-5a-b. Permit Limits for Outfall 01B at Newbern STP.

Compliance History:
The following numbers of exceedences were noted in PCS:

- 24 TSS
- 12 Ammonia
- 13 Suspended Solids % Removal
- 13 Escherichia coli
- 1 Carbonaceous Oxygen Demand (COD)
- 1 Carbonaceous Biological Oxygen Demand (CBOD)
- 1 Fecal coliform
- 1 pH
- 75 Overflows
- 4 Bypasses

Enforcement:
NOV issued April 27, 2007, for permit non-compliance. NOV issued on June 25, 2007 for failure to submit the Pretreatment Semiannual Report.

Agreed Order #06-0196: Newbern was on EPA's Watch List for NPDES permit effluent violations. WWTP Corrective Action Plan/Engineering report CAP/ER received on 06/20/06, approved 07/27/06.

Comments:
The City is doing better since the Agreed Order and is in the process of upgrading the STP. Compliance Evaluation Inspection June 25, 2007: City (STE) has obtained a new plant and collection system certified operator. Also hired an area supervisor. Effluent was clear with no solids.

TN0021580 Union City STP (A.L. Strub WWTP)

Discharger rating: Major
City: Union City
County: Obion
EFO Name: Jackson
Issuance Date: 12/30/05
Expiration Date: 4/30/10
Receiving Stream(s): North Fork Obion River at mile 8.2
HUC-12: 080102020207
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Waste Activated Sludge to aerobic digesters to spray irrigation

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	4	mg/L	MAvg Conc	2/Week	Composite	Effluent
Ammonia as N (Total)	Summer	167	lb/day	MAvg Load	2/Week	Composite	Effluent
Ammonia as N (Total)	Summer		mg/L	MAvg Conc	2/Month	Composite	Influent (Raw Sewage)
Ammonia as N (Total)	Summer		mg/L	DMax Conc	2/Month	Composite	Influent (Raw Sewage)
Ammonia as N (Total)	Winter		mg/L	DMax Conc	2/Week	Composite	Influent (Raw Sewage)
Ammonia as N (Total)	Winter	325	lb/day	MAvg Load	2/Week	Composite	Effluent
Ammonia as N (Total)	Winter	6	mg/L	MAvg Conc	2/Week	Composite	Effluent
Ammonia as N (Total)	Winter		mg/L	MAvg Conc	2/Month	Composite	Influent (Raw Sewage)
Bypass of Treatment (Occurrences)	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	85	Percent	MAvg % Removal	2/Week	Calculated	% Removal
CBOD5	All Year		mg/L	DMax Conc	2/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year		mg/L	MAvg Conc	2/Week	Composite	Influent (Raw Sewage)
CBOD5	Summer	40	mg/L	DMax Conc	2/Week	Composite	Effluent
CBOD5	Summer	25	mg/L	MAvg Conc	2/Week	Composite	Effluent
CBOD5	Summer	1042	lb/day	MAvg Load	2/Week	Composite	Effluent
CBOD5	Summer	35	mg/L	WAvg Conc	2/Week	Composite	Effluent
CBOD5	Summer	1668	lb/day	DMax Load	2/Week	Composite	Effluent
CBOD5	Summer	1460	lb/day	WAvg Load	2/Week	Composite	Effluent
CBOD5	Winter	40	mg/L	DMax Conc	2/Week	Composite	Effluent
CBOD5	Winter	25	mg/L	MAvg Conc	2/Week	Composite	Effluent
CBOD5	Winter	35	mg/L	WAvg Conc	2/Week	Composite	Effluent
CBOD5	Winter	1355	lb/day	MAvg Load	2/Week	Composite	Effluent
CBOD5	Winter	1897	lb/day	WAvg Load	2/Week	Composite	Effluent
CBOD5	Winter	2168	lb/day	DMax Load	2/Week	Composite	Effluent
D.O.	All Year	5	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	941	#/100mL	DMax Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Weekdays	Grab	Effluent

Table 6-6a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
IC25 7day *Ceriodaphnia dubia*	Summer	7.8	Percent	DMin Conc	Continuous	Composite	Effluent
IC25 7day *Ceriodaphnia dubia*	Winter	9.9	Percent	DMin Conc	Continuous	Composite	Effluent
IC25 7day Fathead Minnows	Summer	7.8	Percent	DMin Conc	Continuous	Composite	Effluent
IC25 7day Fathead Minnows	Winter	9.9	Percent	DMin Conc	Continuous	Composite	Effluent
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Composite	Effluent
TRC	Summer	0.24	mg/L	DMax Conc	Weekdays	Grab	Effluent
TRC	Winter	0.19	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year		mg/L	DMax Conc	2/Week	Composite	Influent (Raw Sewage)
TSS	All Year		mg/L	MAvg Conc	2/Week	Composite	Influent (Raw Sewage)
TSS	Summer	45	mg/L	DMax Conc	2/Week	Composite	Effluent
TSS	Summer	1668	lb/day	WAvg Load	2/Week	Composite	Effluent
TSS	Summer	40	mg/L	WAvg Conc	2/Week	Composite	Effluent
TSS	Summer	1251	lb/day	MAvg Load	2/Week	Composite	Effluent
TSS	Summer	30	mg/L	MAvg Conc	2/Week	Composite	Effluent
TSS	Summer	1877	lb/day	DMax Load	2/Week	Composite	Effluent
TSS	Winter	45	mg/L	DMax Conc	2/Week	Composite	Effluent
TSS	Winter	2439	lb/day	DMax Load	2/Week	Composite	Effluent
TSS	Winter	2168	lb/day	WAvg Load	2/Week	Composite	Effluent
TSS	Winter	40	mg/L	WAvg Conc	2/Week	Composite	Effluent
TSS	Winter	1626	lb/day	MAvg Load	2/Week	Composite	Effluent
TSS	Winter	30	mg/L	MAvg Conc	2/Week	Composite	Effluent
TSS % Removal	All Year	85	Percent	MAvg % Removal	2/Week	Calculated	% Removal
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Week	Grab	Effluent

Table 6-6b.

Table 6-6a-b. Permit Limits for Union City STP (A.L. Strub WWTP).

Compliance History:
The following numbers of exceedences were noted in PCS:

2 Total Suspended Solids
4 Settleable Solids
4 Carbonaceous Biological Oxygen Demand
7 Escherichia coli
6 Suspended Solids % Removal
4 Fecal coliform
13 Total Chlorine
11 Carbonaceous Oxygen Demand
8 overflows

Enforcement:
Commissioner's Order # 05-0106: 65 permit violations from April 1, 2002, to September 30, 2004 including discharging wastewater effluent from the STP and discharging from a location other than through a permitted outfall.

EFO Comments:
Union City has inflow and infiltration problems with their collection system. The City is addressing problems. Union City STP, Tyson Foods, and Griffin Industries are supposed to participate in a study together since the limits are tight for that same stretch of river (North Fork Obion River at mile 8.2).

Compliance Evaluation Inspection on March 30, 2007: Current 20 ton accuator, that lowers and raises the decanters, will be replaced with a 25-ton accuator. Additional bracing on the decanters will also relieve the tension on the accuator. The drive units will also be replaced. Work will probably begin during season low flow conditions.

SCADA system will be programmed to lower the decanters at exactly the same time. This will insure equal decanting and provide a more consistent flow rate to the chlorination process.

April 7, 2007: Two out of three submersible pumps have been installed to replace influent screw pumps. One pump will pump 3.0-3.5 MGD. When all three have been installed they will alternate pumping the influent. Preliminary treatment will be partially replaced.

TN0064912 South Fulton STP

Discharger rating: Minor
City: South Fulton
County: Obion
EFO Name: Jackson
Issuance Date: 8/31/05
Expiration Date: 4/30/10
Receiving Stream(s): North Fork Obion River at mile 18.0
HUC-12: 080102020203
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Sludge to anaerobic digester to drybeds to landfill

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
48hr LC50: *Ceriodaphnia dubia*	All Year	3.6	Percent	DMin Conc	Annually	Grab	Effluent
48hr LC50: Fathead Minnows	All Year	3.6	Percent	DMin Conc	Annually	Grab	Effluent
BOD % removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
BOD % removal	All Year	65	Percent	MAvg % Removal	3/Week	Calculated	% Removal
BOD5	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
BOD5	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
BOD5	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
BOD5	All Year	30	mg/L	MAvg Conc	3/Week	Composite	Effluent
BOD5	All Year	123	lb/day	MAvg Load	3/Week	Composite	Effluent
BOD5	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent
BOD5	All Year	163	lb/day	WAvg Load	3/Week	Composite	Effluent
Bypass of Treatment (Occurrences)	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	941	#/100mL	DMax Conc	3/Week	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	1.8	mg/L	DMax Conc	Weekdays	Grab	Effluent

Table 6-7a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
TSS	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	123	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year	163	lb/day	WAvg Load	3/Week	Composite	Effluent
TSS	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent
TSS	All Year	30	mg/L	MAvg Conc	3/Week	Composite	Effluent
TSS % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
TSS % Removal	All Year	65	Percent	MAvg % Removal	3/Week	Calculated	% Removal
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-7b

Tables 6-7a-b. Permit Limits for South Fulton STP.

Compliance History:
The following numbers of exceedences were noted in PCS:

- 4 Biological Oxygen Demand (BOD)
- 1 pH
- 11 Total Chlorine
- 1 Total Suspended Solids (TSS)
- 2 Suspended Solids % Removal
- 1 Escherichia coli
- 1 Dissolved Oxygen
- 33 Overflows
- 1 Bypass

Comments:
Inflow and infiltration are major problems. The City is making repairs as they get funding. The City wants to keep pretreatment program if toxicity tests are kept minimized. Compliance Evaluation Inspection on May 5, 2007: System in process of hiring two people to be used partially in wastewater. Now have full time lab tech. One trickling filter recirculation pump is down and will be replaced or repaired. Intermediate pump impeller broke. New impeller has been purchased and will be installed next week. The No. 2 effluent pump is scheduled for repair this summer during low flow conditions.

TN0064777 Troy Wastewater Lagoon

Discharger rating: Minor
City: Troy
County: Obion
EFO Name: Jackson
Issuance Date: 3/31/05
Expiration Date: 4/30/10
Receiving Stream(s): Obion River at mile 61.2
HUC-12: 080102020301
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Lagoon system

SEGMENT	TN08010202001_4000
Name	Obion River
Size	7.6
Unit	Miles
First Year on 303(d) List	1990
Designated Uses	Recreation (Non-Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting), Fish and Aquatic Life (Non-Supporting)
Causes	Physical substrate habitat alterations, Sedimentation/Siltation, Escherichia coli
Sources	Channelization, Non-irrigated Crop Production, Source Unknown

Table 6-8. Stream Segment Information for Troy Wastewater Lagoon.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD % removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	% Removal
BOD5	All Year	83	lb/day	WAvg Load	Weekly	Grab	Effluent
BOD5	All Year	65	mg/L	DMax Conc	Weekly	Grab	Effluent
BOD5	All Year	108	lb/day	DMax Load	Weekly	Grab	Effluent
BOD5	All Year	75	lb/day	MAvg Load	Weekly	Grab	Effluent
BOD5	All Year	45	mg/L	MAvg Conc	Weekly	Grab	Effluent
BOD5	All Year	50	mg/L	WAvg Conc	Weekly	Grab	Effluent
Bypass of Treatment (Occurrences)	All Year		Occurences/Year		Daily	Visual	Effluent
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Min	Weekly	Grab	Effluent
E. coli	All Year	941	#/100mL	DMax Conc	Weekly	Grab	Effluent
Flow	All Year			MAvg Load			Effluent
Flow	All Year						Effluent
Flow	All Year		MGD	MAvg Conc	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	DMax Conc	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Conc	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Conc	Daily	Continuous	Effluent
Overflow (Duration)	All Year		Occurences/Year		See Permit	Visual	Effluent
Overflow Use Occurences	All Year						Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Instantaneous	Effluent
TSS	All Year	183	lb/day	WAvg Load	Weekly	Grab	Effluent
TSS	All Year	167	lb/day	MAvg Load	Weekly	Grab	Effluent
TSS	All Year	120	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	200	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	110	mg/L	WAvg Conc	Weekly	Grab	Effluent
TSS	All Year	100	mg/L	MAvg Conc	Weekly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Week	Grab	Effluent

Table 6-9. Permit Limits for Troy Wastewater Lagoon.

Compliance History:
The following numbers of exceedences were noted in PCS:

- 4 Biological Oxygen Demand (BOD)
- 1 pH

Enforcement:
NOV for incomplete application on 11/29/05.

Comments:
Inflow and infiltration problems with the collection system.

TN0062171 Obion Wastewater Lagoon

Discharger rating: Minor
City: Obion
County: Obion
EFO Name: Jackson
Issuance Date: 3/31/05
Expiration Date: 4/30/10
Receiving Stream(s): Obion River Mile 56.2
HUC-12: 080102020301
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Lagoon system

SEGMENT	TN08010202001_3000
Name	Obion River
Size	14
Unit	Miles
First Year on 303(d) List	2004
Designated Uses	Irrigation (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Fish and Aquatic Life (Non-Supporting)
Causes	Physical substrate habitat alterations, Sedimentation/Siltation
Sources	Channelization, Non-irrigated Crop Production

Table 6-10. Stream Segment Information for Obion Wastewater Lagoon.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD % removal	All Year	65	Percent	MAvg % Removal	3/Week	Calculated	Percent Removal
BOD5	All Year	45	mg/L	DMax Conc	Weekly	Grab	Effluent
BOD5	All Year	67	lb/day	WAvg Load	Weekly	Grab	Intake
BOD5	All Year	75	lb/day	DMax Load	Weekly	Grab	Effluent
BOD5	All Year	50	lb/day	MAvg Load	Weekly	Grab	Effluent
BOD5	All Year		MGD	MAvg Conc	Weekly	Composite	Influent (Raw Sewage)
BOD5	All Year	40	mg/L	WAvg Conc	Weekly	Grab	Effluent
BOD5	All Year	30	mg/L	MAvg Conc	Weekly	Grab	Effluent
Bypass of Treatment (occurrences)	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
E. coli	All Year	941	#/100mL	MAvg Ari Mean	Weekly	Grab	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Calculated	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Calculated	Influent (Raw Sewage)
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	120	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	183	lb/day	WAvg Load	Weekly	Grab	Intake
TSS	All Year	199	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	100	mg/L	MAvg Conc	Weekly	Grab	Effluent
TSS	All Year	167	lb/day	MAvg Load	Weekly	Grab	Effluent
TSS	All Year	110	mg/L	WAvg Conc	Weekly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Week	Grab	Effluent

Table 6-11. Permit Limits for Obion Wastewater Lagoon.

Compliance History:
The following numbers of exceedences were noted in PCS:

- 31 Biological Oxygen Demand (BOD)
- 4 Total Suspended Solids (TSS)
- 5 Escerichia coli
- 1 pH
- 1 Fecal coliform

Comments:
Inflow and infiltration problems with the collection system. The access road to the lagoon is not high enough and gets flooded. There is bank erosion in the lagoon and the effluent flow reading is not acceptable. The lab needs equipment replacement. Compliance Evaluation Inspection 2/23/07: Air relief valve on effluent line was leaking for an undetermined amount of time. Valve was replaced stopping the leakage. Overflow on 15th street was corrected by removing four blockages in the line.

6.4.B. Industrial Permits

TN0001139 Goodyear Tire and Rubber Company

Discharger rating: Minor
City: Union City
County: Obion
EFO Name: Jackson
Issuance Date: 5/31/05
Expiration Date: 5/31/10
Receiving Stream(s): First Creek at mile 2.3 (Outfalls 001 and SW1), and mile 1.1 of an unnamed tributary to First Creek at mile 1.2 (Outfalls 002 and SW2)
HUC-12: 080102020208
Effluent Summary: Contact and non-contact cooling water from Outfalls 001 and 002 and storm water runoff from Outfalls SW1 and SW2
Treatment system: -

SEGMENT	TN08010202419_0200
Name	Unnamed Trib to Hoosier Creek
Size	6
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Recreation (Not Assessed), Irrigation (Not Assessed), Livestock Watering and Wildlife (Not Assessed), Fish and Aquatic Life (Not Assessed)
Causes	N/A
Sources	N/A

***Table 6-12**. Stream Segment Information for Goodyear Tire and Rubber Company.*

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Cu (T)	All Year	0.028	mg/L	DMax Conc	2/Month	Composite	Effluent
Cu (T)	All Year	0.019	mg/L	MAvg Conc	2/Month	Composite	Effluent
Flow	All Year		MGD	DMax Load	Weekly	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Weekly	Instantaneous	Effluent
Hardness Total (as CaCO3)	All Year		mg/L	MAvg Conc	2/Month	Composite	Effluent
Hardness Total (as CaCO3)	All Year		mg/L	MAvg Conc	2/Month	Composite	Influent (Raw Sewage)
IC25 7day Ceriodaphnia Dubia	All Year	100	Percent	DMin Conc	Quarterly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	100	Percent	DMin Conc	Quarterly	Composite	Effluent
Oil and Grease (Freon EM)	All Year	15	mg/L	DMax Conc	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	10	mg/L	MAvg Conc	Weekly	Grab	Effluent
TRC	All Year	0.019	mg/L	DMax Conc	Weekly	Grab	Effluent
TRC	All Year	0.011	mg/L	MAvg Conc	Weekly	Grab	Effluent
TSS	All Year	20	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	15	mg/L	MAvg Conc	Weekly	Grab	Effluent
Temperature (°C)	All Year	30.5	Deg. C	DMax Conc	Weekly	Grab	Effluent
Zn (T)	All Year	0.308	mg/L	DMax Conc	2/Month	Composite	Effluent
Zn (T)	All Year	0.311	mg/L	MAvg Conc	2/Month	Composite	Effluent
pH	All Year	9	SU	DMax Conc	Weekly	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Weekly	Grab	Effluent

Table 6-13. Permit Limits for Outfall 001 at Goodyear Tire and Rubber Company.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Cu (T)	All Year	0.028	mg/L	DMax Conc	2/Month	Composite	Effluent
Cu (T)	All Year	0.019	mg/L	MAvg Conc	2/Month	Composite	Effluent
Flow	All Year		MGD	DMax Load	Weekly	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Weekly	Instantaneous	Effluent
IC25 7day *Ceriodaphnia dubia*	All Year	100	Percent	DMin Conc	Quarterly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	100	Percent	DMin Conc	Quarterly	Composite	Effluent
Oil and Grease (Freon EM)	All Year	15	mg/L	DMax Conc	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	10	mg/L	MAvg Conc	Weekly	Grab	Effluent
TRC	All Year	0.019	mg/L	DMax Conc	Weekly	Grab	Effluent
TRC	All Year	0.011	mg/L	MAvg Conc	Weekly	Grab	Effluent
TSS	All Year	20	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	15	mg/L	MAvg Conc	Weekly	Grab	Effluent
Temperature (°C)	All Year	30.5	Deg. C	DMax Conc	Weekly	Grab	Effluent
Zn (T)	All Year	0.308	mg/L	DMax Conc	2/Month	Composite	Effluent
Zn (T)	All Year	0.311	mg/L	MAvg Conc	2/Month	Composite	Effluent
pH	All Year	9	SU	DMax Conc	Weekly	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Weekly	Grab	Effluent

Table 6-14. Permit Limits for Outfall 002 at Goodyear Tire and Rubber Company.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year		mg/L	DMax Conc	Annually	Grab	Effluent
BOD5	All Year		mg/L	DMax Conc	Annually	Grab	Effluent
Flow	All Year		MGD	DMax Load	Annually	Estimate	Effluent
Oil and Grease (Freon EM)	All Year		mg/L	DMax Conc	Annually	Grab	Effluent
TSS	All Year		mg/L	DMax Conc	Annually	Grab	Effluent
Zn (T)	All Year		mg/L	DMax Conc	Annually	Grab	Effluent
pH	All Year		SU	DMax Conc	Annually	Grab	Effluent

Table 6-15. Permit Limits for Outfalls SW1 and SW2 at Goodyear Tire and Rubber Company.

Compliance History:
The following numbers of exceedences were noted in PCS:

- 21 Total Chlorine
- 3 Zinc
- 1 pH

Comments:
Manufacturing radial passenger and light truck tires. Proactive, but currently hampered by budget. Needs a higher capacity flow measuring device for storm water events.

TN0000931 Griffin Industries, Inc.

Discharger rating: Minor
City: Union City
County: Obion
EFO Name: Jackson
Issuance Date: 3/31/06
Expiration Date: 5/31/10
Receiving Stream(s): North Fork Obion River at mile 9.5
HUC-12: 080102020205
Effluent Summary: Treated process wastewater, treated domestic wastewater and storm water runoff through Outfalls 001, 002 and 003, and storm water runoff through outfalls SW3 and SW4
Treatment system: -

SEGMENT	TN08010202009_1000
Name	North Fork Obion River
Size	14.61
Unit	Miles
First Year on 303(d) List	2004
Designated Uses	Fish and Aquatic Life (Non-Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Irrigation (Supporting)
Causes	Physical substrate habitat alterations, Sedimentation/Siltation
Sources	Channelization, Non-irrigated Crop Production

Table 6-16. Stream Segment Information for Griffin Industries, Inc.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year		mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	8.8	lb/day	DMax Load	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year		mg/L	MAvg Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	5.3	lb/day	MAvg Load	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	5.3	lb/day	MAvg Load	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	8.8	lb/day	DMax Load	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	5.3	lb/day	MAvg Load	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year		mg/L	MAvg Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year		mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year		mg/L	MAvg Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	8.8	lb/day	DMax Load	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year		mg/L	DMax Conc	2/Month	Grab	Effluent
BOD5	All Year		mg/L	DMax Conc	2/Month	Grab	Effluent
BOD5	All Year	15.8	lb/day	DMax Load	2/Month	Grab	Effluent
BOD5	All Year		mg/L	MAvg Conc	2/Month	Grab	Effluent
BOD5	All Year	10.5	lb/day	MAvg Load	2/Month	Grab	Effluent
BOD5	All Year		mg/L	DMax Conc	2/Month	Grab	Effluent
BOD5	All Year	15.8	lb/day	DMax Load	2/Month	Grab	Effluent

Table 6-17a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD5	All Year		mg/L	MAvg Conc	2/Month	Grab	Effluent
BOD5	All Year	10.5	lb/day	MAvg Load	2/Month	Grab	Effluent
BOD5	All Year		mg/L	DMax Conc	2/Month	Grab	Effluent
BOD5	All Year	15.8	lb/day	DMax Load	2/Month	Grab	Effluent
BOD5	All Year		mg/L	MAvg Conc	2/Month	Grab	Effluent
BOD5	All Year	10.5	lb/day	MAvg Load	2/Month	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
E. coli	All Year	941	#/100mL	DMax Conc	2/Month	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
E. coli	All Year	941	#/100mL	DMax Conc	2/Month	Grab	Effluent
E. coli	All Year	941	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	400	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	400	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	400	#/100mL	DMax Conc	2/Month	Grab	Effluent
Flow	All Year		MGD	MAvg Load	2/Month	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	2/Month	Instantaneous	Effluent
Flow	All Year		MGD	DMax Load	2/Month	Instantaneous	Effluent
Flow	All Year		MGD	DMax Load	2/Month	Instantaneous	Effluent
Flow	All Year		MGD	DMax Load	2/Month	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	2/Month	Instantaneous	Effluent
Nitrogen, Inorganic Total	All Year	134	mg/L	MAvg Conc	2/Month	Grab	Effluent
Nitrogen, Inorganic Total	All Year	134	mg/L	MAvg Conc	2/Month	Grab	Effluent
Nitrogen, Inorganic Total	All Year	194	mg/L	DMax Conc	2/Month	Grab	Effluent
Nitrogen, Inorganic Total	All Year	134	mg/L	MAvg Conc	2/Month	Grab	Effluent
Nitrogen, Inorganic Total	All Year	194	mg/L	DMax Conc	2/Month	Grab	Effluent
Nitrogen, Inorganic Total	All Year	194	mg/L	DMax Conc	2/Month	Grab	Effluent
Oil and Grease (Freon EM)	All Year	200	lb/day	DMax Load	2/Month	Grab	Effluent
Oil and Grease (Freon EM)	All Year	60	lb/day	MAvg Load	2/Month	Grab	Effluent
Oil and Grease (Freon EM)	All Year	20	lb/day	MAvg Load	2/Month	Grab	Effluent
Oil and Grease (Freon EM)	All Year	40	lb/day	DMax Load	2/Month	Grab	Effluent
Oil and Grease (Freon EM)	All Year	120	lb/day	DMax Load	2/Month	Grab	Effluent
Oil and Grease (Freon EM)	All Year	100	lb/day	MAvg Load	2/Month	Grab	Effluent
TSS	All Year	440	lb/day	DMax Load	2/Month	Grab	Effluent
TSS	All Year	220	lb/day	MAvg Load	2/Month	Grab	Effluent
TSS	All Year	132	lb/day	MAvg Load	2/Month	Grab	Effluent
TSS	All Year	44	lb/day	MAvg Load	2/Month	Grab	Effluent
TSS	All Year	88	lb/day	DMax Load	2/Month	Grab	Effluent
TSS	All Year	264	lb/day	DMax Load	2/Month	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Month	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Month	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Month	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Month	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Month	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Month	Grab	Effluent

Table 6-17b.

Tables 6-17a-b. Permit Limits for Outfall 001 at Griffin Industries, Inc.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD5	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
COD	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
E. coli	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
Flow	All Year		MGD	MAvg Load	Quarterly	Estimate	Effluent
Flow	All Year		MGD	DMax Load	Quarterly	Estimate	Effluent
Nitrite + Nitrate Total (as N)	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
Oil and Grease (Hexane Extraction)	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
TSS	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
pH	All Year		SU	DMax Conc	Quarterly	Grab	Effluent

Table 6-18. Permit Limits for Outfalls SW3 and SW4 at Griffin Industries, Inc.

Compliance History:
The following numbers of exceedences were noted in PCS:

- 1 Biological Oxygen Demand (BOD).

Comments:
Recycles inedible animal byproducts and spent restaurant cooking oils into ingredients used in the manufacturing of animal feed. Union City STP, Tyson Industries, and Griffin Industries are supposed to participate in a study together since the limits are tight for that same stretch of river (North Fork Obion River).

TN0073563 Tyson Foods, Inc.

Discharger rating: Minor
City: Union City
County: Obion
EFO Name: Jackson
Issuance Date: 12/30/06
Expiration Date: 4/30/10
Receiving Stream(s): North Fork Obion River at mile 10.0
HUC-12: 080102020207
Effluent Summary: Treated process waterwater through Outfall 001
Treatment system: -

SEGMENT	TN08010202009_1000
Name	North Fork Obion River
Size	14.61
Unit	Miles
First Year on 303(d) List	2004
Designated Uses	Fish and Aquatic Life (Non-Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Irrigation (Supporting)
Causes	Physical substrate habitat alterations, Sedimentation/Siltation
Sources	Channelization, Non-irrigated Crop Production

Table 6-19. Stream Segment Information for Tyson Foods, Inc.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	24.3	lb/day	MAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	6	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	3	mg/L	MAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	48.5	lb/day	DMax Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	32.4	lb/day	MAvg Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	64.7	lb/day	DMax Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	8	mg/L	DMax Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	4	mg/L	MAvg Conc	3/Week	Composite	Effluent
BOD5	All Year	129	lb/day	MAvg Load	2/Week	Composite	Effluent
BOD5	All Year	26	mg/L	DMax Conc	2/Week	Composite	Effluent
BOD5	All Year	210	lb/day	DMax Load	2/Week	Composite	Effluent
BOD5	All Year	16	mg/L	MAvg Conc	2/Week	Composite	Effluent
CBOD5	All Year		mg/L	MAvg Conc	Quarterly	Composite	Effluent
D.O.	All Year	6.5	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Conc	2/Week	Grab	Effluent
E. coli	All Year	941	#/100mL	DMax Conc	2/Week	Grab	Effluent
Fecal Coliform	All Year	400	#/100mL	DMax Conc	2/Week	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Conc	2/Week	Grab	Effluent
Flow	All Year		MGD	MAvg Load	Continuous	Recorder	Effluent

Table 6-20a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Flow	All Year		MGD	DMax Load	Continuous	Recorder	Effluent
IC25 7day Ceriodaphnia Dubia	Summer	1.6	Percent	MAvg Geo Mean	Semi-annually	Composite	Effluent
IC25 7day Ceriodaphnia Dubia	Winter	1.2	Percent	MAvg Geo Mean	Semi-annually	Composite	Effluent
IC25 7day Fathead Minnows	Summer	1.6	Percent	MAvg Geo Mean	Semi-annually	Composite	Effluent
IC25 7day Fathead Minnows	Winter	1.2	Percent	MAvg Geo Mean	Semi-annually	Composite	Effluent
Oil and Grease (Freon EM)	All Year	14	mg/L	DMax Conc	Monthly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	8	mg/L	MAvg Conc	Monthly	Grab	Effluent
Settleable Solids	All Year	0.5	mL/L	DMax Conc	3/Week	Grab	Effluent
TRC	All Year	0.57	mg/L	DMax Conc	Weekly	Grab	Effluent
TRC	All Year	0.33	mg/L	MAvg Conc	Weekly	Grab	Effluent
TSS	All Year	30	mg/L	DMax Conc	Monthly	Composite	Effluent
TSS	All Year		lb/day	MAvg Load	Monthly	Composite	Effluent
TSS	All Year		lb/day	DMax Load	Monthly	Composite	Effluent
TSS	All Year	20	mg/L	MAvg Conc	Monthly	Composite	Effluent
pH	All Year	9	SU	DMax Conc	3/Week	Grab	Effluent
pH	All Year	6	SU	DMin Conc	3/Week	Grab	Effluent

Table 6-20b.

Tables 6-20a-b. Permit Limits for Tyson Foods, Inc.

Comments:

Poultry Slaughtering and Processing. Union City STP, Tyson Industries, and Griffin Industries are supposed to participate in a study together since the limits are tight for that same stretch of river (North Fork Obion River). Compliance Evaluation Inspection on 12/19/06: Facility performing exceptionally well, as usual. Great care taken in all areas evaluated.